



file copy

ATTN: TO #5

Sheet 1 of 1

FORM PTO-1449 U.S. Department of Commerce Patent and Trademark Office	U.S. Patent Application No. 09/151,612
INFORMATION DISCLOSURE STATEMENT BY PATENTEE	Assignee: Senmed Medical Ventures and U.S. Government Inventors: Leonard D. Kohn, Koichi Susuki, Atsumi Mori, Ken Iishi, Dennis M. Klinman and John M. Rice
	Title: IMMUNE ACTIVATION BY DOUBLE- STRANDED POLYNUCLEOTIDE Group Art Unit: 1643 Examiner: As yet unassigned

#### U.S. PATENT DOCUMENTS

EXAMINER INITIAL	DOCUMENT NUMBER								DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
DB	2	4	5	0	5				July 22, 1958	Rimington, <i>et al.</i>			
DB	3	3	9	0	1	5	0		June 25, 1968	Henry			
DB	3	5	0	5	3	5	0		April 7, 1970	Doebel, <i>et al.</i>			
DB	3	6	4	1	0	4	9		February 8, 1972	Sandstrom <i>et al.</i>			
DB	4	6	0	8	3	4	1		1986	F.S. Ambesi- Impiombato			
DB	4	6	0	9	6	2	2		1986	L.D. Kohn			
DB	5	0	5	1	4	4	1		September 24, 1991	Matsumoto, <i>et al.</i>			
DB	5	2	0	2	3	1	2		April 13, 1993	Matsumoto, <i>et al.</i>			
DB	5	3	1	0	7	4	2		May 10, 1994	Elias			
DB	5	5	5	6	7	5	4		Sep 17, 1996	Singer <i>et al.</i>			
DB									Patent Application	L.D. Kohn, <i>et al.</i>			August 31, 1998
DB	5	5	8	7	3	6	9		Dec. 24, 1996	Daynes, <i>et al.</i>			

#### FOREIGN PATENT DOCUMENTS

EXAMINER INITIAL	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION

#### OTHER DOCUMENTS

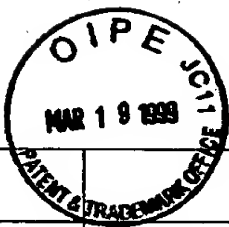
EXAMINER INITIAL	AUTHOR, TITLE, DATE, PERTINENT PAGES, ETC.	
	1.	D.D. Adams, <i>et al.</i> , <i>Br. Med. J.</i> 2: 199-201 (1974)



EXAMINER INITIAL		AUTHOR, TITLE, DATE, PERTINENT PAGES, ETC.
	2.	J. Aguayo, <i>et al.</i> , <i>J. Clin Endocrinol. Metab.</i> 66: 903-908 (1988)
	3.	T. Akamizu, <i>et al.</i> , <i>Proc. Natl. Acad. Sci. U.S.A.</i> 87: 5677-5681 (1990)
	4.	F.S. Ambesi-Impiombato and H. Perrild, <i>FRTL-5 Today</i> , Int Congress Series 818, Excerpta Medica, Amsterdam, The Netherlands, pp. 1-286 (1989)
	5.	I. André, <i>et al.</i> , <i>Proc. Natl. Acad. Sci. U.S.A.</i> 93: 2260-2263 (1996)
	6.	J.M. Aschoff, <i>et al.</i> , <i>Analytical Biochemistry</i> 219: 218-223 (1994)
	7.	P.L. Balducci-Silano, <i>et al.</i> , <i>Endocrinology</i> 139: 2300-2313 (1998)
	8.	T. Ban, <i>et al.</i> , <i>Endocrinology</i> 131: 815-829 (1992)
	9.	C.F. Bennett, <i>et al.</i> , <i>J. Immunol.</i> 152: 3530-3540 (1994)
	10.	C. Benoist & D. Mathis, <i>Nature</i> 394: 227-228 (1998)
	11.	M. Bifulco, <i>et al.</i> , <i>J. Biol. Chem.</i> 270: 15231-15236 (1995)
	12.	Boivin, <i>et al.</i> , <i>Am. J. Pathol.</i> 146: 276-288 (1995)
	13.	G.F. Bottazzo, <i>et al.</i> , <i>Lancet</i> 2: 1115-1119 (1983)
	14.	G.F. Bottazzo, <i>et al.</i> , <i>N. Engl. J. Med.</i> 313: 353-360 (1985)
	15.	C. Brakebush, <i>et al.</i> , <i>J. Biol. Chem.</i> 272: 3674-3682 (1997)
	16.	N. Briggs, <i>AIDS-Res. Hum. Retroviruses</i> 9: 811-816 (1993)
	17.	G. Carayanniotis, <i>et al.</i> , <i>Clin. Exp. Immunol.</i> 99: 294-302 (1995)
	18.	J. Carel <i>et al.</i> , in <i>the Thyroid and Autoimmunity</i> , H.A. Drexhagz and W. M. Wiersinga, eds pp. 145-147, Elsevier Science Publishers (1986)
	19.	Chang, <i>et al.</i> , <i>J. Exp. Med.</i> 180: 1367-1374 (1994)
	20.	Chang, <i>et al.</i> , <i>Immunity</i> 4: 167-178 (1996)
	21.	Y. Chicheportiche & P. Vassalli, <i>J. Biol. Chem.</i> 269: 5512-5517 (1994)
	22.	Chin, <i>et al.</i> , <i>Immunity</i> 1: 687-697 (1994)
	23.	D.S. Cooper <i>N. Engl. J. Med.</i> 311: 1353-1362 (1984)
	24.	S. Costagliola, <i>et al.</i> , <i>Biochem. Biophys. Res. Commun.</i> 199: 1027-1034 (1994)
	25.	S. Costagliola, <i>et al.</i> , <i>Endocrinology</i> 135: 2150-2159 (1994)
	26.	S. Costagliola, <i>et al.</i> , <i>J. Mol. Endocrinol.</i> 13: 11-21 (1994)
	27.	J. Dangott, <i>et al.</i> , <i>Proc. Natl. Acad. Sci. U.S.A.</i> 86: 2128-2132 (1989)



EXAMINER INITIAL		AUTHOR, TITLE, DATE, PERTINENT PAGES, ETC.
DB ✓	28.	T.F. Davies, <i>et al.</i> , <i>Clin. Endocrinol.</i> 31: 125-135 (1989)
	29.	C. Dorner, <i>et al.</i> , <i>J. Biol. Chem.</i> 273: 20267-20275 (1998)
	30.	P.A. Ealey, <i>et al.</i> , <i>J. Clin. Endocrinol. Metab.</i> 58: 909-914 (1984)
	31.	R. Ekholm <i>et al.</i> , Control of the thyroid gland: regulation of its normal function and growth. <i>Advances in Experimental Medicine and Biology</i> , vol. 261. Plenum Press, New York pp1-403. (1989)
	32.	S. Ehl, <i>et al.</i> , <i>J. Exp. Med.</i> 185: 1241-1251 (1997)
	33.	G.F. Fenzi, <i>et al.</i> , in <i>Thyroid Autoimmunity</i> , A. Pinchera, <i>et al.</i> , (Eds.), Plenum Press, New York, pp. 83-90 (1987)
	34.	A.K. Foulis, <i>et al.</i> , <i>Diabetologia</i> 30: 333-343 (1987)
	35.	A.K. Foulis and Farquharson, <i>Diabetes</i> 35: 1215-1224 (1986)
	36.	R.S. Fujinami & M.B. Oldstone, <i>Science</i> 230: 1043-1045 (1985)
	37.	O. Fusco, <i>et al.</i> , <i>Int. J. Cancer</i> 79: 23-26)
	38.	Geiger, <i>et al.</i> , <i>Invest. Ophthalmol. Vis. Sci.</i> 35: 2667-2681 (1994)
	39.	R.N. Germain, <i>et al.</i> , <i>Proc. Natl. Acad. Sci. U.S.A.</i> 82: 2940-2944 (1985)
	40.	R. Gianani & N. Sarvetnick, <i>Proc. Natl. Acad. Sci. U.S.A.</i> 93: 2257-2259 (1996)
	41.	C. Giuliani, <i>et al.</i> , <i>J. Biol. Chem.</i> 170: 11453-11462 (1995)
	42.	Graninger, <i>et al.</i> , <i>J. Rheumatol.</i> 18: 1621-1622 (1991)
	43.	P.M. Graves, <i>et al.</i> , <i>Diabetes</i> 46: 161-168 (1997)
	44.	N. Green, <i>et al.</i> , <i>Cell</i> 28: 477-487 (1982)
	45.	W.L. Green, in <i>Werner and Ingbar's The Thyroid: A Fundamental Clinical Text</i> , 6 <sup>th</sup> Edition, L. Braverman and R. Utiger (eds), J.B. Lippincott Co., p. 234 (1991)
	46.	J. Guardiola & A. Maffei, <i>Crit. Rev. Immunol.</i> 13: 247-268 (1993)
	47.	J. Guardiola & A. Maffei, <i>Crit. Rev. Immunol.</i> 17: 463-468 (1997)
	48.	P.F. Halloran, <i>et al.</i> , <i>Transplant Proc.</i> 29: 1041-1044 (1997)
	49.	T. Hanafusa, <i>et al.</i> , <i>Lancet</i> 2: 1111-1115 (1983)
	50.	R. Hegger and H. Abken, <i>Physiol. Chem. Phys. Med. NMR</i> 27: 321-328 (1995)
	51.	A. Hirai, <i>et al.</i> , <i>J. Biol. Chem.</i> 272: 13-16 (1997)
DB	52.	M.S. Horowitz, <i>et al.</i> , <i>Nature Medicine</i> 4: 781-785 (1998)
	53.	Hultgren, <i>et al.</i> , <i>Diabetes</i> 45: 812-817 (1996)



EXAMINER INITIAL	AUTHOR, TITLE, DATE, PERTINENT PAGES, ETC.	
	54.	S. Iacobelli, et al., <i>Cancer Res.</i> 46: 3005-3010 (1986)
	55.	S. Iacobelli, et al., <i>Breast Cancer Res. Treat.</i> 11: 19-30 (1988)
	56.	S. Iacobelli, et al., <i>J. AIDS</i> 10: 450-456 (1995)
	57.	S. Iacobelli, et al., <i>Int. J. Cancer</i> 42: 182-184 (1988)
	58.	S. Iacobelli, et al., <i>J. Infect. Dis.</i> 164: 819 (1991)
	59.	S. Iacobelli et al. <i>Br. J. Cancer</i> 69: 172-176 (1994)
	60.	S. Ikuyama et al., <i>Mol. Endocrinol.</i> 6: 1701-1715 (1992)
	61.	O. Isozaki, et al., <i>Mol. Endocrinol.</i> 3: 1681-1692 (1989)
	62.	O. Isozaki, et al., <i>Endocrinology</i> 128: 3113-3121 (1991)
	63.	S. Kikuoka, et al., <i>Endocrinology</i> 139: 1891-1898 (1998)
	64.	W.B. Kim, et al., <i>J. Clin. Endocrinol. Metab.</i> 81: 1758-1767 (1996)
	65.	Kjellin and Sandstrom, <i>Acta Chemica Scandinavica</i> , 23: 2888-2899 (1969)
	66.	D.M. Klinman, et al., <i>J. Immunol.</i> 158: 3635-3642 (1997)
JB	67.	D.M. Klinman, et al., <i>Proc. Natl. Acad. Sci. U.S.A</i> 93: 2879-83 (1996)
	68.	L.D. Kohn, et al., <i>Int. Rev. Immunol.</i> 912: 135-165 (1992)
	69.	L.D. Kohn, et al., <i>Vitamins and Hormones</i> , 50: 287-384 (1995)
	70.	L.D. Kohn, <i>Thyroid</i> 7: 493-498 (1997)
	71.	Kothe, et al., <i>J. Clin. Invest.</i> 99: 469-474 (1997)
	72.	Kotzin, <i>Cell</i> 85: 303-306 (1996)
	73.	P.R. Krause, et al., <i>J. Exp. Med.</i> 181: 297-306 (1995)
JB	74.	A.M. Krieg, et al., <i>Nature</i> 374: 546-548 (1995)
	75.	Kulkarni, et al., <i>Proc. Natl. Acad. Sci. U.S.A.</i> 90: 770-774 (1993)
	76.	T.M. Kundig, et al., <i>Science</i> 268: 1343-1347 (1995)
	77.	Letterio, et al., <i>J. Clin. Invest.</i> 98: 2109-2119 (1996)
	78.	M. Londei, et al., <i>Nature</i> 312: 639-641 (1984)
	79.	M.M. Lotz, et al., <i>Proc. Natl. Acad. Sci. U.S.A.</i> 90: 3466-3470 (1993)



EXAMINER INITIAL		AUTHOR, TITLE, DATE, PERTINENT PAGES, ETC.
	80.	B. Mach, <i>et al.</i> , <i>Ann. Rev. Immunol.</i> 14: 301-331 (1996)
	81.	A. Marion, <i>et al.</i> , <i>Cell. Immunol.</i> 158: 329-341 (1994)
	82.	C. Marth, <i>et al.</i> , <i>Int. J. Cancer.</i> 59: 808-813 (1994)
	83.	Micallef, <i>et al.</i> , <i>Eur. J. Immunol.</i> 26: 1647-1651 (1996)
	84.	T. Misaki, <i>et al.</i> , <i>Endocrinology</i> 123: 2849-2855 (1988)
	85.	S. Miyamoto, <i>et al.</i> , <i>Mol. Cell. Biol.</i> 18: 19-29 (1998)
	86.	C.W. Moffett & C.M. Paden, <i>J. Neuroimmunol.</i> 50: 139-151 (1994)
	87.	V. Montani, <i>et al.</i> , <i>Endocrinology</i> 139: 290-302 (1998)
DB	88.	V. Montani, <i>et al.</i> , <i>Endocrinology</i> 139: 280-289 (1998)
	89.	P.J. Morris, <i>Curr. Opin. in Immun.</i> 3: 748-751 (1991)
	90.	E. Mozes, <i>et al.</i> , <i>Science</i> 261: 91-93 (1993)
	91.	C. Natoli, <i>et al.</i> , <i>Biochem. Biophys. Res. Commun.</i> 225: 617-620 (1996)
	92.	C. Natoli, <i>et al.</i> , <i>Brit. J. Cancer.</i> 67: 564-567 (1993)
	93.	C. Natoli, <i>et al.</i> , <i>J. AIDS</i> 6: 370-375 (1993)
	94.	C. Natoli, <i>et al.</i> , <i>J. Infect. Dis.</i> 164: 616-617 (1991)
	95.	Y. Noguchi, <i>et al.</i> , <i>J. Biol. Chem.</i> 273: 3649-3653 (1998)
	96.	P. Ohashi, <i>et al.</i> , <i>Cell</i> 65: 305-317 (1991)
	97.	M. Ohmori, <i>et al.</i> , <i>Mol. Endocrinol.</i> 10: 1407-1424 (1996)
	98.	M. Ohmori, <i>et al.</i> , <i>Mol. Endocrinol.</i> 10: 76-89 (1996)
	99.	M.B. Oldstone, <i>et al.</i> , <i>Cell</i> 65: 319-331 (1991)
	100.	J.E. Ortel, <i>et al.</i> , in Werner's The Thyroid, S.H. Ingbar & L.E. Braverman (Eds.), J.B. Lippincott Co., Philadelphia, pp. 651-686 (1986)
	101.	Ozmen, <i>et al.</i> , <i>Eur. J. Immunol.</i> 25: 6-12 (1995)
	102.	R. Paschke, <i>et al.</i> , <i>J. Clin Endocrinol. Metab.</i> 80: 2470-2474 (1995)
	103.	V.J. Palombella, <i>et al.</i> , <i>Cell.</i> 78: 773-785 (1994)
	104.	S. Pellegrini & I. Dusanter-Fourth, <i>Eur. J. Biochem.</i> 248: 615-633 (1997)
	105.	M. Platzer, <i>et al.</i> , <i>Endocrinology</i> 121: 2087-2092 (1987)



EXAMINER INITIAL	AUTHOR, TITLE, DATE, PERTINENT PAGES, ETC.	
	106.	Prendergast, <i>et al.</i> , <i>Invest. Ophthalmol. Vis. Sci.</i> 39: 754-762 (1998)
	107.	Rabinovitch, <i>et al.</i> , <i>J. Autoimmun.</i> 9: 645-651 (1996)
	108.	M.E. Roman, <i>et al.</i> , <i>Nature Medicine</i> 3: 849-854 (1997)
	109.	Débray-Sachs, <i>et al.</i> , <i>J. Autoimmun.</i> 4: 237-248 (1991)
108	110.	M. Saji, <i>et al.</i> , <i>J. Clin. Endocrinol. Metab.</i> 75: 871-878 (1992)
	111.	M. Saji, <i>et al.</i> , <i>J. Biol. Chem.</i> 272: 20096-20107 (1997)
	112.	M. Saji, <i>et al.</i> , <i>Proc. Natl. Acad. Sci. U.S.A.</i> 89: 1944-1948 (1992)
	113.	M. Saji, <i>et al.</i> , <i>Endocrinology</i> 130: 520-523 (1992)
	114.	Sarvetnick, <i>J. Clin. Invest.</i> 99: 371-372 (1997)
	115.	Y.M. Sato, <i>et al.</i> , <i>Science</i> 273: 352 (1996)
	116.	G. Scambia, <i>et al.</i> , <i>Anticancer Res.</i> 8: 761-764 (1988)
	117.	F. Schuppert, <i>et al.</i> , <i>Thyroid</i> 7: 837-842 (1997)
	118.	Serreze, <i>et al.</i> , <i>Diabetes</i> 43: 505-509 (1994)
	119.	G.S. Seetharamaiah, <i>et al.</i> , <i>Endocrinology</i> 136: 2817-2824 (1995)
	120.	G.S. Seetharamaiah, <i>et al.</i> , <i>Autoimmunity</i> 14: 315-320 (1993)
	121.	N. Shimojo, <i>et al.</i> , <i>Proc. Natl. Acad. Sci. U.S.A.</i> 93: 11074-11079 (1996)
	122.	H. Shimura, <i>et al.</i> , <i>Mol. Endocrinol.</i> 8: 1049-69 (1994)
	123.	H. Shimura, <i>et al.</i> , <i>Mol. Endocrinol.</i> 9: 527-539 (1995)
	124.	H. Shimura, <i>et al.</i> , <i>J. Biol. Chem.</i> 268: 24125-24137 (1993)
	125.	Y. Shimura, <i>et al.</i> , <i>J. Biol. Chem.</i> 269: 31908-31914 (1994)
	126.	Shull, <i>et al.</i> , <i>Nature</i> 359: 693-699 (1992)
	127.	D.S. Singer, <i>et al.</i> , <i>J. Immunol.</i> 153: 873-880 (1994)
	128.	D.S. Singer, <i>et al.</i> , <i>Crit. Rev. Immunol.</i> 17: 463-468 (1997)
	129.	A. Solage and R. Laskov, <i>Eur. J. Biochem.</i> 60: 23-33 (1975)
	130.	P. Smerdely, <i>et al.</i> , <i>Endocrinology</i> 133: 2403-2406 (1993)
	131.	Steimle, <i>et al.</i> , <i>Cell</i> 5: 646-651 (1995)



EXAMINER INITIAL	AUTHOR, TITLE, DATE, PERTINENT PAGES, ETC.	
	132.	Steimle, et al., <i>Science</i> 265: 106-109 (1994)
	133.	K. Suzuki, et al., <i>Mol. Cell. Biol.</i> in press (1998)
	134.	K. Suzuki, et al., <i>Endocrinology</i> 139: 3014-3017 (1998)
	135.	K. Suzuki, et al., <i>Proc. Natl. Acad. Sci., U.S.A.</i> 95: 8251-8256 (1998)
	136.	K. Suzuki, et al., <i>Thyroid</i> 5 (Suppl 1): S1 (1995)
	137.	K. Tahara, et al., <i>Biochem. Biophys. Res. Commun.</i> 179: 70-77 (1992)
	138.	S.-I. Taniguchi, et al., <i>Endocrinology</i> 124: 2046-2051 (1989)
	139.	S.-I. Taniguchi, et al., <i>Mol. Endocrinol.</i> 12: 19-33 (1998)
	140.	R.M. Ten, et al., <i>C. R. Acad. Sci. III</i> 316: 496-501 (1993)
	141.	P.E. Thorsness & E.R. Weber, <i>Int. Rev. Cytol.</i> 165: 207-234 (1996)
	142.	J.P.Y. Ting & A. S. Baldwin, <i>Curr. Opin. Immunol.</i> 5: 8-16 (1993)
	143.	Tisch and McDevitt, <i>Cell</i> 85: 291-297 (1996)
	144.	I. Todd, et al., <i>Annals. N.Y. Acad. Sci.</i> 475: 241-249 (1986)
	145.	Trembleau, et al., <i>J. Exp. Med.</i> 181: 817-821 (1995)
	146.	A. Ullrich, et al., <i>J. Biol. Chem.</i> 269: 18401-18407 (1994)
	147.	E.R. Unanue, <i>Ann. Rev. Immunology</i> 2: 295-428, (1984)
	148.	H. Vase, et al., <i>Endocrinology</i> 136: 4415-4423 (1995)
	149.	N.M. Wagle, et al., <i>Endocrinology</i> 136: 3461-3469 (1995)
	150.	N.M. Wagle, et al., <i>Autoimmunity</i> 18: 103-108 (1994)
	151.	Wang, et al., <i>Proc. Natl. Acad. Sci. U.S.A.</i> 94: 13844-13849 (1997)
	152.	A.P. Weetman & A.M. McGregor, <i>Endocrinol. Rev.</i> 15: 788-830 (1994)
	153.	H. Wekerle, <i>Nature Medicine</i> 4: 770-771 (1998)
	154.	Wicker, et al., <i>Diabetes</i> 43: 500-504 (1994)
	155.	R.J. Winand, <i>J. Biol. Chem.</i> 250: 6503-6508 (1975)
	156.	S. Yamamoto, et al., <i>J. Immunol.</i> 148: 4072-4076 (1992)
	157.	A.K. Yi, et al., <i>J. Immunol.</i> 156: 558-564 (1996)



EXAMINER INITIAL	AUTHOR, TITLE, DATE, PERTINENT PAGES, ETC.	
	158.	I.A. York & K.L. Rock, <i>Annu. Rev. Immunol.</i> 14: 369-396 (1996)
	159.	M. Zakarija, <i>et al.</i> , <i>Mol. Cell. Endocrinol.</i> 58: 329-336 (1988)
	160.	Zhao <i>et al.</i> , <i>Science</i> 279: 1344-1347 (1998)

EXAMINER	JOETTE CONNELL	DATE CONSIDERED
		4/21/00
EXAMINER: Initial if citation considered, whether or not citation is in conformance with M.P.E.P. 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.		

Form PTO-1449 [6-4]